



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,457	11/20/2003	Kyung-Yol Yon	1293.1990	6652
21171	7590	06/06/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			GLEITZ, RYAN M	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/716,457	YON ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Ryan Gleitz	2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-14 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 20 November 2003 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date. _____.   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____.                                   |

**DETAILED ACTION**

***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: LIQUID ELECTROPHOTGRAPHY PRINTER HAVING EXHAUST SYSTEM WITH OXIDATIVE CATALYST FILTER.

***Drawings***

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 5, 7.

The figure is objected to because it is numbered. Where only a single view is used in an application to illustrate the claimed invention, it must not be numbered and the abbreviation "FIG." must not appear. 37 CFR 1.84(u)(1).

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "honeycomb carrier" and "non-woven heating mat" in claims 3, 7 and 13, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must

be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

Claims 12 -14 are objected to because claim 12 depends on itself. The claims are examined assuming claim 12 depends on claim 11. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, and 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurotori et al. (US 4,415,533).

Regarding claims 1, and 9-11, Kurotori et al. disclose an exhaust system of a liquid electrophotography printer including an exhaust line shown in figures 1 and 2 to discharge air inside an engine cell to an outside. Pump (7) reads on one exhaust fan, which is installed inside the exhaust line to generate and move the air inside the engine cell. Heater (3 or 3') is a heating coil to heat the air to be discharged through the exhaust line to ignite impurities contained in the

Art Unit: 2852

air. Oxidation catalysts bed (4; col. 4, line 39) is an oxidative catalyst filter to filter and deodorize the impurities.

Regarding claim 3, covers (20, 21) form part of the exhaust line, and the oxidative catalyst filter (4) is installed inside the exhaust line and is normally of honey-comb construction and made of metals (col. 4, lines 39-50), which reads on metallic honeycomb carrier coated with a catalyst mixture.

Regarding claim 4, figures 1 and 2 illustrate the arrangement of the heating coil (3 or 3') and the oxidative catalyst filter (4) installed adjacent to each other in an orientation that must be installed sequentially.

Regarding claims 5, 7, and 8, the exhaust system above also reads on a method for removing exhaust gas in an exhaust system of a liquid electrophotography printer.

Claims 1, 2, 4-6, and 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim (US 6,041,201).

Regarding claims 1, 9-12, Kim discloses an exhaust system of a liquid electrophotography printer, as shown in figure 2. Exhaust lines (L1 and L2) form the first part of an exhaust line to discharge air inside an engine cell to an outside. An exhaust fan (400) is installed inside the exhaust line to generate and move the air inside the engine cell. Heater (300) is a heating coil to heat the air to be discharged through the exhaust line to ignite impurities contained in the air. Filter (200) is an oxidative catalyst filter to filter and deodorize the impurities (col. 2, lines 42-45).

Regarding claim 2, the heating coil (300) is installed inside the exhaust line and covered by filter (200) which is formed of platinum, which reads on the heating coil is coated with platinum on an outer surface.

Regarding claim 4, a hollow cylinder is formed in the platinum catalyst filter and the heater is installed in the hollow cylinder (col. 2, lines 16-18), which reads on the heating coil and the oxidative catalyst filter are sequentially installed adjacent to each other, as additionally shown by figure 2.

Regarding claims 5, 6, and 8, the exhaust system above also reads on a method for removing exhaust gas in an exhaust system of a liquid electrophotography printer.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3, 7, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (US 6,041,201) in view of Yamamoto et al. (US 6,535,703).

Kim disclose the method and apparatus above but do not disclose that the filter is a metallic honeycomb carrier or a non-woven heating mat.

However, Yamamoto et al. disclose an exhaust system for a liquid printer including a filter having a honeycomb structure (col. 8, line 43) to maximize the efficiency of the filter.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the filter of Kim with the honeycomb structure taught by Yamamoto et al. because in an exhaust cleaning device of honeycomb structure in which the form of the columnar flow passages is orthohexagonal pole, utilization efficiency of the inside space of the case and contacting efficiency between the adsorbent and the exhaust are particularly high. Col. 12, lines 57-62.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ueno et al. (JP 06-300307) disclose a deodorizing heater with a coating of platinum.

Yamazaki et al. (JP 02-173663) disclose an electrophotographic device with a honeycomb shaped filter.

### *Contact Information*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Gleitz whose telephone number is (571) 272-2134. The examiner can normally be reached on Monday-Friday between 9:00AM and 6:00PM.

Art Unit: 2852

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

rg



Arthur T. Grimley  
Supervisory Patent Examiner  
Technology Center 2800